

Remarks

These Remarks are in reply to the Office Action mailed June 30, 2006 and the Advisory Action mailed September 21, 2006. Claims 1-21 were pending in the Application prior to the outstanding Office Action. In the Office Action, the Examiner rejected claims 1-21. The present response amends claims, 1-3, 16-19 and 21, adds new claim 22. Reconsideration of the rejections is respectfully requested.

I. Claim Rejections - 35 USC § 102

1. Claims 1-7, 9-13, 16-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Gorynin et al. The claims are unpatentable for the same reasons set forth on page 3 in the prior office action.

Gorynin teaches directing a powder into a plasma torch flame, which happens from an external source located outside of the torch itself as shown in Fig. 1 and Fig. 2. Since "the exothermic reaction occurs primarily at the surface" (col. 4, lines 11-12), and it is initiated "in the powder" by "the heat of the plasma torch flame" (col. 3, lines 66-67) outside of the torch, it is apparent that, although such exothermic reaction utilizes the heat of the flame, it cannot sustain the flame from inside the torch. In contrast, the present invention teaches generating and maintaining the flame via combustion happening entirely inside the torch not using an external energy source, and thus is self-sustaining. Therefore, Gorynin cannot anticipate the present invention in independent claims 1-3, 16-19, and 21. Since claims 4-7 and 9-13 depend on claim 3, and claim 20 depends on claim 19, Gorynin cannot anticipate claims 1-7, 9-13, 16-21, and Applicant respectfully requests that the rejection with respect to these claims be withdrawn.

2. Claims 1-7, 9-13, 16-21 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Fincke et al. The claims are unpatentable for the same reasons set forth on page 3 in the prior office action.

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The apparatus in Fincke requires "a heating means for producing a hot gaseous stream upstream from the inlet end of axial reactor" (col. 8, lines 21-27). In other words, the flame is not self-sustaining since it requires external energy (heat means) to sustain it. In contrast, the present invention teaches maintaining the flame via combustion that does not require any external excitation (energy source). Therefore, Fincke cannot anticipate the present invention in independent claims 1-3, 16-19, and 21. Since claims 4-7 and 9-13 depend on claim 3, and claim 20 depends on claim 19, Fincke cannot anticipate claims 1-7, 9-13, 16-21, and Applicant respectfully requests that the rejection with respect to these claims be withdrawn.

II. 35 U.S.C. 103(a)

1. Claims 1-7, 9-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Selitzer in view of either Fincke et al or Gorynin et al. The claims are rejected for the same reasons set forth in the prior office action, page 2.

Neither Fincke nor Gorynin can anticipate maintaining a flame via combustion in the torch without external heating means as discussed above. Since Selitzer does not teach maintaining of a flame via combustion either, Selitzer in view of either Gorynin or Fincke cannot anticipate independent claims 1-3, 16-19, and 21. Since claims 4-7 and 9-15 depend on claim 3, and claim 20 depends on claim 19, Selitzer in view of either Gorynin or Fincke cannot anticipate claims 1-7, 9-21, and Applicant respectfully requests that the rejection with respect to these claims be withdrawn.

2. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Selitzer in view of either Gorynin et al or Fincke et al as applied to claims 1-7,9-21 above, and further in view of Wagner. The claims are unpatentable for the same reasons set forth in the prior office action.

Wagner teaches using a flame suppressor for a safer device and thus cannot anticipate a torch "operable to maintain a flame via combustion" claimed in independent claim 3. As discussed in the previous section, Selitzer in view of either Gorynin or Fincke cannot anticipate independent claim 3 either. Since claim 8 depends on claim 3, it cannot be rendered obvious over Selitzer in view of either Gorynin or Fincke and further in view of Wagner, and Applicant respectfully requests that the rejection with respect to claim 8 be withdrawn.


III. Conclusion

In light of the above, it is respectfully submitted that all of the claims now pending in the subject patent application should be allowable, and a Notice of Allowance is requested. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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